

## **The William H. Pickering Speech Collection, 1955-1975**

**4.65 cubic feet**

**JPL 181**

### **Biography**

William Hayward Pickering was born in Wellington, New Zealand, on December 24, 1910. After one year at the University of New Zealand, he entered California Institute of Technology (Caltech) in 1929. He received his Bachelor of Science degree in Electrical Engineering in 1932, his Master of Science degree in Physics in 1933, and his Doctorate in Physics in 1936, all from Caltech. After graduation, he joined the Caltech faculty, becoming a full professor of electrical engineering in 1946. During World War II, Pickering conducted research on the absorption properties of cosmic rays with Dr. Robert A. Millikan, and investigated Japanese balloon warfare techniques for the Army Air Corps.

Pickering was invited to join the Jet Propulsion Laboratory (JPL) in 1944, on the basis of his experience in the design and use of telemetering devices. He was named chief of the Remote Control Section at JPL. Beginning in 1949, Pickering headed the Corporal and Sergeant missile programs, and in 1954 he succeeded Louis Dunn as Laboratory Director.

In November 1957 JPL and the Army Ballistic Missile Agency were directed to prepare and orbit an artificial satellite, in the wake of the launching of Sputnik by the Soviet Union, and the failure of the American Vanguard satellite. Explorer 1, the first U.S. artificial satellite, was launched on January 31, 1958.

In December 1958 JPL was transferred to the newly created National Aeronautics and Space Administration (NASA). In January 1959 JPL was assigned the responsibility for the robotic exploration of the moon and planets. Under Pickering's direction, JPL supervised the Ranger missions returning the first close-up, high-resolution pictures of the lunar surface; he also supervised the Surveyor soft-landers on the Moon; the Mariner missions to Mars and Venus; and the first gravity assist mission to Mercury, via Venus. JPL also designed the Viking Orbiters to Mars and designed and built the Voyager spacecraft for their mission to the outer planets.

After Pickering's retirement from JPL in 1976, he directed the Research Institutes of Saudi Arabia's University of Petroleum and Minerals. In 1978 he returned to California and established the Pickering Research Corporation for space related projects. In 1983, he formed Lignetics, Inc., to manufacture wood pellets from wood waste for use in home heating.

Pickering has received numerous national and international honors, which include NASA's Distinguished Service Medal, the Prix Galabert of France, Italy's Order of Merit. Pickering was also awarded the Robert H. Goddard Trophy from the National Space Club, the British Interplanetary Society's Special Award, the 1957 James Wyld Award of the American Rocket Society, the 1959 U.S. Army Distinguished Civilian Service Medal, the 1969 Louis B. Hill Award from the American Institute of Aeronautics and Astronautics, the 1968 Arthur Noble Award from the City of Pasadena and in 1993 the inaugural Francois-Xavier Bagnoud Aerospace Prize. Pickering was featured on the cover of Time magazine in 1963 and 1965, and was Grand Marshall of the Tournament of Roses Parade in 1963.

Pickering has also been honored by national leaders. In 1975, he was awarded the National Medal of Science from President Gerald Ford. In 1976, Pickering was made an "Honorary Knight Commander of the Civil Division of the Most Excellent Order of the British Empire" by Queen Elizabeth, and in 1994 he was awarded the Japan Prize by Emperor Akihito.

### **Provenance**

The collection originated from Victoria L. Melikan, Special Assistant to the Director, Division 10. The collection was transferred from Melikan to the JPL Laboratory Records Center on June 11, 1976. The collection was originally 24 boxes. There was a permanent withdrawal of three boxes in June 1983 and seven boxes in July 1990. The remaining boxes were transferred to the JPL Archives in July 1990.

## Collection Arrangement and Description

The collection consists of rough drafts and transcripts of speeches delivered by Pickering, along with related correspondence, and speeches and articles written by others that were of interest to Pickering. The collection is divided into two series: speeches and articles by Pickering and speeches and articles by others. The collection is arranged in its original order: chronologically by date of speech or published article. The items include correspondence, memoranda, photographs, journal articles, newspaper clippings, transcripts of press conferences, rough drafts of speeches and transcripts of speeches.

### Speeches Delivered by Pickering (Boxes 1-11, folders 1-253).

The folders include correspondence pertaining to the speech, any rough drafts, including hand-written drafts, any drafts of the speech that were different from previous drafts, a transcript of the speech as given, and in many cases, an “official” version of the speech. If the speech were published in a journal, copies of the journal article are also included. The date span of Pickering’s speeches in the collection is 1955-1975, with bulk dates of 1958-1970.

At the beginning of the collection is an index of Pickering’s speech appearances from 1955 to 1968. The list is useful as a locating aid, although in some places the dates of speeches are incorrect.

Not every speech is represented with a transcript or draft. A few were repeats of speeches that Pickering had made earlier, and some had no written script. The titles of the speeches represented in the collection are noted in the folder list.

Pickering did repeat a few of his speeches to different groups. One example of this was Pickering’s speech on the “Grand Tour” mission that eventually resulted in the Voyager project. The materials with the November 1969 Grand Tour speech that Pickering made for the Society of Sigma Xi included transparencies, a 1966 journal article by Gary Flandro, and several preliminary drafts of the speech. The speech was repeated at the University of Tennessee Space Institute in January 1970, and the Harvard Society of California in April 1970.

Also included in the series are transcripts of press conferences and television and radio interviews of Pickering. Two press conferences are represented, regarding Pioneer 3 in 1958 and Mariner 5 in 1967. Pickering did several interviews for American and British television, and they are represented in the series.

Several of the files contain photographs, either representing Pickering’s talk or copies of slides that Pickering showed. One example is the speech “From Nebula to Man: Seeking the Ultimate Answers,” given by Pickering in 1970, which includes 20 lithographs of slides used in the presentation.

Pickering did a fair amount of world travel publicizing the Lab and space exploration. On at least two occasions he traveled back to his native land of New Zealand; correspondence and documentation relating to these trips are represented in the series.

Pickering also made a few speeches in conjunction with the Apollo 11 Spacecraft and Lunar Rock Mobile Exhibit. The exhibit traveled to all the State Capitols of the continental U.S. from April 1970 to March 1971, as well as Hawaii and Alaska in April and May 1971. Exhibits on display included the Apollo 11 Command Module, a Moon rock, Apollo 11 space suits, and various art depicting the Apollo 11 mission. The NASA-sponsored display started and finished in Glendale, California. Pickering delivered speeches at Carson City, Nevada and Boise, Idaho, at the same time the exhibit was on display.

In some cases, newspaper clippings publicizing an event that Pickering spoke at are in the collection. One example of this is Pickering’s speech at the American Association for the Advancement of Science, held in Chicago in December 1970. The person introducing Pickering was interrupted by hecklers, although the situation was quickly diffused. The *Los Angeles Times* later reported, “Youths Boo Pickering’s Talk on Mars,” which was a double mistake, as Pickering himself was not interrupted, and his talk was not on Mars. Pickering wrote to a USC professor that he had stayed and answered questions from dissenters for twenty minutes after the initial question period, and that apart from the initial few hecklers, the demonstrators were well behaved.

### Speeches Delivered by Others (Boxes 12-15; folders 254-390).

Pickering collected articles written by others and transcripts of speeches delivered by others. The span dates of the series are from 1958-1975, with a bulk date of 1963-1970.

While the bulk of the series consists of articles written by JPL personnel, Pickering also collected speeches by other people. Also included are speeches and articles written by key NASA personnel such as NASA Administrators James E. Webb, Thomas O. Paine and James C. Fletcher and NASA Deputy Administrators Robert C. Seamans and George M. Low. Caltech president Lee A. DuBridge is also represented in the series with several speeches and articles. DuBridge's successor at Caltech, Harold Brown, is also represented in the collection with a speech.

Additionally, there are several speeches regarding the space program delivered by members of Congress. These individuals include:

George P. Miller, (D-CA), U.S. House 1945-73; Member, Committee on Science and Astronautics, 1959-73; Chair, 1961-73.

Joseph E. Karth, (D-MN), U.S. House 1959-77; Member, Committee on Science and Astronautics, 1959-71; Chair, Subcommittee on Space Science and Applications, 1959-71.

Emilio Q. Daddario (D-CT), U.S. House 1959-71; Member, Committee on Science and Astronautics.

Margaret Chase Smith (R-ME), U.S. Senate 1949-73, ranking Republican on Aeronautical and Space Sciences Committee 1967-73.

Walter F. Mondale (D-MN) U.S. Senate 1965-76, Vice President 1977-81.

Frank E. Moss (D-UT) U.S. Senate 1959-77, Chair, Committee on Aeronautical and Space Sciences 1973-77.

John V. Tunney (R-CA) U.S. House 1965-71; U.S. Senate 1971-77.

Hubert H. Humphrey (D-MN), U.S. Senate 1949-64, 71-78; Vice President 1965-69.

Several of these speeches are in the form of testimony in the *Congressional Record*. One example from 1970 is testimony from James A. Van Allen of the State University of Iowa, Thomas Gold of Cornell University, and U.S. Senator Walter F. Mondale, regarding the proposed Space Shuttle.

#### JPL Discreet materials

Three folders contain documents that are stamped or marked "JPL Discreet." The original positions of JPL Discreet material in the collection have been marked with separation sheets. The material has been moved to a box at the end of the collection.

### **Conservation/Preservation**

Standard preparations of documents for long term storage were completed.

### **Separation Statement**

An original accession (1990-41) was split into three separate collections: the William H. Pickering Speech Collection (this collection), William H. Pickering Office File Collection (JPL 186), and the William H. Pickering Research/Reference Collection (JPL 187).

Three folders consisting of magnetic tapes were removed from the collection. Their locations in the collection were marked with separation sheets, and they were relocated to the Audio-Visual Collection of the Archives.

### **Finding Aids**

No other finding aids exist for the collection.

## **FILE FOLDER LIST**

### **Box 1 of 16 – Speeches Delivered by Pickering**

- Fld. 1 List of speeches and papers by Pickering, 1955-1968.
- Fld. 2 Welcome to the OOR Liaison Committee, February 3, 1955.
- Fld. 3 "Some Problems of Guided Missile Development," April 3, 1955.
- Fld. 4 "Project Vanguard," October 9, 1956.

- Fld. 5 "Some Problems Associated with a Small Earth Satellite," California Institute of Technology (Caltech) Seminar, February 26, 1957. (notes; no transcript)
- Fld. 6 "The Engineer and the Next Ten Years," West Coast College, March 23, 1957.
- Fld. 7 Faraday Lecture, April 11, 1957.
- Fld. 8 "Project Vanguard," The University Club, November 21, 1957.
- Fld. 9 "Scientific Observations of the IGY Satellite," late 1957.
- Fld. 10 Introduction of General Medaris, 1958.
- Fld. 11 "Some Instrumentation Problems of a Small Satellite," Institute of Astronautical Sciences, New York, January 29, 1958.
- Fld. 12 "The Engineer in the Space Age," Los Angeles Chamber of Commerce, March 21, 1958.
- Fld. 13 Radio Guidance Lecture, University of California Los Angeles, March 31, 1958.
- Fld. 14 "Man in Space," Second AFOSR Astronautics Symposium, Denver, April 29, 1958.
- Fld. 15 The Association of the U.S. Army, Ft. MacArthur, California, May 2, 1958.
- Fld. 16 "Education in the Space Age," New Orleans, May 9, 1958.
- Fld. 17 Armed Forces Day Speech, Columbia Square, Los Angeles, May 16, 1958.
- Fld. 18 Pasadena Chamber of Commerce Annual Dinner, June 9 1958.
- Fld. 19 "The Explorer Satellite," White Sands Missile Range, July 1, 1958.
- Fld. 20 Sacramento AIEE, August 21, 1958.
- Fld. 21 "I Am an American," American Day Ceremony, Burbank, September 20, 1958.
- Fld. 22 "The First Year of the Space Age," Aircraft Industries Association, Phoenix, November 17, 1958.
- Fld. 23 Pioneer 3 Press Conference, Abe Silverstein, William H. Pickering, Wernher von Braun, Will Kellogg, December 6, 1958.
- Fld. 24 "The Exploration of Space," Caltech Alumni Association, April 11, 1959.
- Fld. 25 "The Exploration of Space," American Petroleum Institute, April 30, 1959.
- Fld. 26 "Space- The New Frontier," American Institute of Chemical Engineers, St. Paul, Minnesota, September 29, 1959.
- Fld. 27 "Communications with a Lunar Rocket," 7th International Meeting of Communications, Genoa, Italy, October 5, 1959.
- Fld. 28 "Do We Have a Space Program?" American Rocket Society, Washington, D.C., November 18, 1959; reprinted in *Astronautics*, January 1960.
- Fld. 29 "Electronics and Our Space Program," Electronic Industries Association, December 3, 1959.
- Fld. 30 "The Scientific Uses of Artificial Satellites and Space Craft," American Association for the Advancement of Science, Chicago, December 26, 1959.
- Fld. 31 "The Space Snafu," The Beavers Organization, Los Angeles, January 21, 1960.
- Fld. 32 Interview for World Wide Sixty, NBC-TV, broadcast February 13, 1960, February 2, 1960.
- Fld. 33 "High School Education in the Space Age," The Webb School, Claremont, CA, March 19, 1960.

Fld. 34 "On the Importance of Astrophysics and Astronautical Sciences in the Future," RIAS Berlin University of the Air radio broadcast, c. April 1960.

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Fld. 35 "Public Understanding in the Space Age," California Wing of the Air Force Association, Santa Monica, California, April 9, 1960.

Fld. 36 "Does a Missile Gap Exist?" Caltech, April 19, 1960.

Fld. 37 Institute of Radio Engineers Banquet, April 21, 1960.

Fld. 38 "Youth and Science," Firestone Science Day, Los Angeles, April 27, 1960.

Fld. 39 National Telemetering Conference, Santa Monica, California, May 23, 1960.

Fld. 40 "The Scientific Challenge of Space," International Astronautical Society (IAS), Los Angeles, June 28, 1960. [handwritten draft only]

Fld. 41 California Association of School Administrators, School of Administration, University of Southern California, July 20, 1960.

Fld. 42 "What of the Future," Neighborhood Church, October 11, 1960.

Fld. 43 California Newspaper Conference, October 13, 1960.

Fld. 44 American Rocket Society, Detroit, October 19, 1960.

Fld. 45 Lunar Colloquium, November 2, 1960.

Fld. 46 American Rocket Society Banquet, Monterey, California, November 3, 1960.

Fld. 47 "Missile Gap," CIT Lecture, November 8, 1960.

Fld. 48 Hughes Management Club, November 10, 1960.

Fld. 49 American Ordnance Association Luncheon, Pasadena, November 15, 1960.

Fld. 50 "Maintaining a Professional Environment," American Management Association, November 29, 1960.

Fld. 51 "Science and National Goals," Western Washington College of Education, Bellingham, Washington, December 2, 1960. [note: Pickering cancelled, Frank Goddard delivered speech.]

Fld. 52 Phi Delta Epsilon medical fraternity, Sherman Oaks, California, January 17, 1961.

Fld. 53 American Association of University Women, January 30, 1961. [no prepared text]

Fld. 54 Armed Forces Civilian Advisory Committee, January 31, 1961. [no prepared text]

Fld. 55 "Problems of Interplanetary Radio Communications," Société Française d'Astronautique, Paris, France, March 2, 1961.

Fld. 56 "Why Must We Go Into Space," American Rocket Society, Riverside, California, March 16, 1961.

Fld. 57 "Scientific and Military Potential of Space," U.S. Air Force War College, Maxwell Air Force Base, Alabama, March 20, 1961.

Fld. 58 California Society of Professional Engineers, Los Angeles, March 22, 1961.

Fld. 59 Speech to Plastics Industry, March 23, 1961. [no prepared text]

Fld. 60 Statement after Russian Manned Launch, April 13, 1961.

Fld. 61 Statement after Freedom 7 Alan Shepard Flight, May 5, 1961.

Fld. 62 Theodore von Kármán 80th Birthday Celebration, Washington, D.C., May 11, 1961.

Fld. 63 "Journey Into the Unknown," Westridge School graduating class,

- Pasadena, June 16, 1961.
- Fld. 64 Lions Club, Pasadena, August 18, 1961.
- Fld. 65 "The Pioneering Spirit," University of California, Berkeley, August 22, 1961.
- Fld. 66 "Space, Professional Societies, and the National Interests," American Rocket Society, New York City, October 9, 1961.
- Fld. 67 Introductory Remarks, American Rocket Society Panel on Solar System Exploration, October 12, 1961.
- Fld. 68 "The Costs of Space," American Ordnance Association, San Francisco Post, November 2, 1961.
- Fld. 69 Science Center, Los Angeles, November 18, 1961.
- Fld. 70 West Point Society of Los Angeles, November 28, 1961.
- Fld. 71 American Rocket Society, Tullahoma, Tennessee section, December 6, 1961.

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- Fld. 72 "The Role of the Experimenter- Mariner R," late 1961.
- Fld. 73 "The Exploration of Space," Institute of Radio Engineers, January 9, 1962.
- Fld. 74 "The Costs of Space," American Ordnance Association, San Diego Post, January 19, 1962.
- Fld. 75 Dartmouth College, January 22, 1962.
- Fld. 76 American Rocket Society, San Francisco, February 1, 1962. [no prepared text]
- Fld. 77 "The Exploration of the Solar System," Honeywell Engineers Lecture Series, University of Minnesota, February 25, 1962.
- Fld. 78 American Rocket Society Twin Cities Section, Minneapolis, February 26, 1962.
- Fld. 79 "Contributions of Science by 1992," National Management Association, Pacific Northwest Area Council, San Francisco, March 17, 1962.
- Fld. 80 Flintridge Preparatory School for Boys, Graduating class, June 8, 1962.
- Fld. 81 Institute on Missile Technology, University of Connecticut, August 16, 1962.
- Fld. 82 "Some Views on the Exploration of Space," Town Hall, Los Angeles, December 11, 1962.
- Fld. 83 Grand Marshall's Speech Before Tournament of Roses Director's Dinner, December 30, 1962.
- Fld. 84 George Washington Achievement Award, Beverly Hilton Hotel, Los Angeles, February 19, 1963.
- Fld. 85 Columbia University, April 15, 1963.
- Fld. 86 "Man at the Threshold of Space," UCLA, April 18, 1963.
- Fld. 87 "University Research Activities and Their Impact on the National Space Program," Conference on Peaceful Uses of Space, University of Illinois, Chicago, May 7, 1963.
- Fld. 88 Annual Management Conference, Associated Business Publications, Del Monte, California, May 27, 1963.
- Fld. 89 "Some Thoughts for a Graduating Class," Polytechnic School, Pasadena, California, June 13, 1963.
- Fld. 90 "Some Thoughts on Guidance Systems," American Institute of Aeronautics and Astronautics, Boston, August 13, 1963.
- Fld. 91 Suggested Statement on United Nations Week, September 5, 1963.
- Fld. 92 "Frontiers in Space Instrumentation," Instrument Society of America,

Chicago, September 9, 1963.

Fld. 93 United Nations Observance Week, Pasadena, September 10, 1963.

Fld. 94 "Education for the Space Age," JETS Leadership Conference, California State Polytechnic College, Pomona, California, November 2, 1963.

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Fld. 95 "Exploration of Deep Space," American Institute of Aeronautics and Astronautics Presidential Address, Pittsburgh, Pennsylvania, November 13, 1963.

Fld. 96 Wright Day, Kitty Hawk, North Carolina, December 16, 1963.

Fld. 97 Beckman Management Club, January 28, 1964.

Fld. 98 Dedication Speech, Anaheim Public Library, February 23, 1964.

Fld. 99 American National Red Cross, Glendale Advance Gifts Banquet, February 28, 1964.

Fld. 100 "Some Perspective on the Space Program," Y.P. Association, Hawaii, March 9, 1964.

Fld. 101 Goddard Memorial Dinner, Washington, D.C., March 20, 1964.

Fld. 102 La Canada Rotary Club, March 25, 1964.

Fld. 103 UCLA Graduate School of Business Administration, March 26, 1964.

Fld. 104 Advanced Research Projects Agency, April 8, 1964.

Fld. 105 "Today's Supply for Tomorrow's Knowledge," College-Federal Council, April 9, 1964.

Fld. 106 "Exploration of the Moon and Planets," 4th National Conference on the Peaceful Uses of Space, Boston, April 30, 1964.

Fld. 107 Society of Automobile Engineers, May 11, 1964.

Fld. 108 San Gabriel Valley Library Trustees, May 19, 1964.

Fld. 109 Town Hall, Los Angeles, June 9, 1964.

Fld. 110 California Research Directors Conference, Caltech, June 22, 1964.

Fld. 111 "Space- Boon or Boondoggle?" California Group Conference of the Investment Bankers Association of America, June 23, 1964.

Fld. 112 Golden Plate Dinner, June 29, 1964.

Fld. 113 South Africa Trip, September-October 1964.

Fld. 114 "Guidance of Interplanetary Spacecraft," Bernard Price Memorial Lecture, South African Institute of Electrical Engineers, September 29, 1964.

Fld. 115 Columbus Medal, Genoa, Italy, October 1964.

Fld. 116 "The Ranger Program," *Astronautics and Aeronautics*, November 2, 1964.

Fld. 117 Hughes Management Club, December 14, 1964.

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Fld. 118 Harvard Alumni, December 16, 1964.

Fld. 119 Ranger 7 note, Lab-Oratory, 1965.

Fld. 120 "Exploration of the Moon," 11th Annual Science Congress, Auckland, New Zealand, February 12, 1965.

Fld. 121 "The Mariner/Mars Mission," March 1965.

Fld. 122 "Exploration of the Moon," Paris, March 4, 1965.

Fld. 123 "Advances in Aerospace Engineering," ASCE Pacific Southwest Council Conference, April 20, 1965.

Fld. 124 "The Ranger Spacecraft," KCET-TV Presentation for ARCS "Ranger," May 10, 1965.

Fld. 125 Introduction of Dr. Wernher von Braun, La Canada Industry Education Council, La Canada Country Club, May 12, 1965.

Fld. 126 "The Heritage of Dr. Theodore von Kármán," Theodore von Kármán

- Memorial Seminar, May 12, 1965.
- Fld. 127 Welcoming Remarks, Second Manned Spaceflight Symposium, Paris, France, June 14, 1965.
- Fld. 128 Crozier Gold Medal, July 14, 1965.
- Fld. 129 Aerospace Education Workshop, Western New Mexico University, July 12-August 12, 1965.
- Fld. 130 White House Presentation Honoring Mariner Mars Team, July 29, 1965.
- Fld. 131 "Exploring the Planets," National Space Club, August 17, 1965.
- Fld. 132 California State Fair and Exposition, September 1, 1965.
- Fld. 133 16th Congress of International Aeronautical Federation, Athens, Greece, September 13, 1965.
- Fld. 134 "The Mariner Flight to Mars," *Astronautics and Aeronautics*, October 1965.
- Fld. 135 "The U.S. Planetary Program," Governor's Conference on Oceanography and Astronautics, Lihue, Kauai, Hawaii, October 1, 1965.
- Fld. 136 "Instrumentation for the Exploration of the Moon and Planets," Instrument Society of America, October 5, 1965.
- Fld. 137 "Some New Methods for Planetary Exploration," National Academy of Sciences, Seattle, October 15, 1965.
- Fld. 138 British United Services Club, October 15, 1965.
- Fld. 139 "Future Space Programs," International Space Electronics Symposium, Miami, November 3, 1965.
- Fld. 140 Aerojet-General Management Club, November 16, 1965.
- Fld. 141 "The Role of Computers in Space Exploration," Fall Joint Computer Conference, Las Vegas, Nevada, November-December 1965.
- Fld. 142 Academic Foundation of America, December 12, 1965.

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- Fld. 143 Proctor Prize Lecture, Scientific Research Society of America, Berkeley, California, December 29, 1965.
- Fld. 144 "Above the Horizon: Space Exploration," *Pasadena Star-News*, January 1, 1966.
- Fld. 145 JPL Presentation to Congressional Visitors, February 12, 1966. [two magnetic tapes]
- Fld. 146 "The Exploration of the Solar System," Case Institute of Technology, Cleveland, Ohio, February 23, 1966.
- Fld. 147 Drexel Institute, Philadelphia, February 24, 1966.
- Fld. 148 "To the Moon and Beyond," U.S. Army Junior Science and Humanities Symposium, Detroit, February 25, 1966.
- Fld. 149 Institute of Electrical and Electronics Engineers, New York, March 22, 1966.
- Fld. 150 "Why Go to the Moon?" Cercle De L'Opinion, Paris, March 31, 1966.
- Fld. 151 Clark College, April 13, 1966.
- Fld. 152 "Navigating the Mariner Spacecraft to Mars," American Philosophical Society, Philadelphia, April 23, 1966.
- Fld. 153 Diablo College, Concord, California, May 6, 1966.
- Fld. 154 "Exploration of the Solar System," American Institute of Aeronautics and Astronautics, St. Louis, Missouri, May 9, 1966.
- Fld. 155 "Reaching Towards Mars," *Discovery Journal of Science*, September 1966.
- Fld. 156 "The Future of the U.S. Space Program," AID Kick-off, Santa Ana,



California, September 14, 1966.

- Fld. 157 "Where Next in Space?" Southern California United Press International Editors, Solvang, California, October 22, 1966.
- Fld. 158 California Academy of Sciences, San Francisco, November 2, 1966.
- Fld. 159 Speech on BBC2 Television, London, November 8, 1966.
- Fld. 160 Glendale Rotary Club, November 10, 1966.
- Fld. 161 Director's Message to Lab, rough draft, Christmas 1966.
- Fld. 162 Town Hall, Los Angeles, January 31, 1967. [includes magnetic tapes]
- Fld. 163 "Progress in Unmanned Space Exploration," Lectures in Aerospace Medicine, Brooks Air Force Base, Texas, February 6, 1967.
- Fld. 164 "The Mariner IV Mission," Soviet Science Publication, February 27, 1967.
- Fld. 165 American Institute of Aeronautics and Astronautics, Philadelphia, March 1, 1967.

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- Fld. 166 "The Mariners," American Astronomical Society Fifth Goddard Memorial Symposium, Washington, D.C., March 14, 1967.
- Fld. 167 "The Search for Extraterrestrial Life," 38th Annual Scientific Meeting of the Aerospace Medical Association, Washington, D.C., April 12, 1967.
- Fld. 168 Aviation/Space Writers Association, 29th Annual Meeting and News Conference, Las Vegas, Nevada, May 14, 1967.
- Fld. 169 "The Search for Extraterrestrial Life," Long Beach Medical Association, May 17, 1967.
- Fld. 170 United Aircraft Research Lab, June 1, 1967.
- Fld. 171 "Ten Years of Space Exploration by the United States," International Astronautical Congress, Belgrade, Yugoslavia, September 25, 1967 [speech delivered by Jack N. James]
- Fld. 172 "The Opening Decade of Space Exploration: The United States Program," 18th Annual International Astronautical Congress, Belgrade, September 1967. [folder 1 of 2]
- Fld. 173 [folder 2 of 2]
- Fld. 174 Statement on Russian Venus IV Mission, October 18, 1967.
- Fld. 175 Mariner 5 Venus 1967 Encounter Press Conference, October 18, 1967.
- Fld. 176 Caltech Speech, Beckman Auditorium, October 20, 1967.
- Fld. 177 Caltech Lecture Series, November 1967.
- Fld. 178 "Progress in Exploring the Solar System," American Iron and Steel Institute, November 30, 1967.
- Fld. 179 "Why Explore the Solar System?" Air Force Association, Pasadena Chapter, January 6, 1968.
- Fld. 180 "The Exploration of Space," Georgia Institute of Technology, January 18, 1968.
- Fld. 181 "The Next Steps in Space Exploration," Third Annual National Conference on Industrial Research, Chicago, January 23, 1968.

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- Fld. 182 "Tenth Anniversary of Explorer I," National Press Club, January 31, 1958.
- Fld. 183 Welcome, Spacecraft Electromagnetic Interference Workshop, JPL, February 6, 1968.
- Fld. 184 "Tracking and Guidance of Deep-Space Vehicles," Voice of America, March 6, 1968.
- Fld. 185 Los Angeles Area Chamber of Commerce, March 7, 1968.

- Fld. 186 "Progress in Space Exploration," Pasadena Rotary Club, March 13, 1968.
- Fld. 187 Arthur Noble Award, Pasadena, March 14, 1968.
- Fld. 188 "The Next Decade- Some Predictions," AIAA/AAS/IES 1968 Space Forum, Washington, D.C., April 4, 1968.
- Fld. 189 "Progress in Space Research," and "The Search for Extraterrestrial Intelligence," (alternate speech), 10th Annual Conference of University Surgical Residents, UCLA, April 26, 1968.
- Fld. 190 "The Next Ten Years in Space," Channel City Club, Santa Barbara, April 26, 1968.
- Fld. 191 "Exploring the Moon," Institute of Geophysics and Planetary Physics, UCLA, May 3, 1968.
- Fld. 192 Sigma Pi Sigma, Wisconsin State University, May 8-9, 1968.
- Fld. 193 "The Big Business of Science," Naval Missile Center, Point Mugu, May 10, 1968.
- Fld. 194 New Zealand Tour, May 1968.
- Fld. 195 "The Computer as Librarian," Special Libraries Association, Music Center, Los Angeles, June 2, 1968.

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- Fld. 196 "Neo-Sputnik: Age of UnReason in Space Exploration," Los Angeles Rotary Club, August 16, 1968.
- Fld. 197 "The Engineer- 1968," Eta Kappa Nu Association, Los Angeles, August 22, 1968.
- Fld. 198 "Application of Cybernetic Theory to Automatic Spacecraft," 16th International Congress of Transports and Communications, Genoa, Italy, October 10, 1968.
- Fld. 199 Myrtle Wreath Award, Hadassah (Women's Zionist Organization of America), Hollywood, California, October 30, 1968.
- Fld. 200 University of Texas at Arlington, November 26, 1968.
- Fld. 201 Golden Omega Award, Electrical Insulation Conference, Los Angeles, December 11, 1968.
- Fld. 202 "Science and the Urban Crisis- A Fragmented Dilemma," Wilshire Boulevard Temple, Los Angeles, December 15, 1968.
- Fld. 203 "The Search for Extraterrestrial Life," Douglas Aircraft Management Club, Long Beach, January 8, 1969.
- Fld. 204 Colorado Science Conference, University of Colorado, Boulder, January 29, 1969.
- Fld. 205 Louis B. Hill Award, American Institute of Aeronautics and Astronautics, Minneapolis, March 19, 1969.
- Fld. 206 "One Ten-Thousandth of One Percent," Tau Beta Pi, Southern California Chapters, May 10, 1969.
- Fld. 207 Sigma Xi Banquet, USC, May 20, 1969.
- Fld. 208 Annual Candlelight Dinner, Pasadena Boys Club, May 21, 1969.
- Fld. 209 British Broadcasting Corporation, August 1969.
- Fld. 210 Rotary Club of Altadena, August 21, 1969.
- Fld. 211 Bendix Management Club, Pasadena, September 11, 1969.
- Fld. 212 Aerojet General Management Club, El Monte, September 18, 1969.
- Fld. 213 Science and Engineering Council of Santa Barbara, September 27, 1969.
- Fld. 214 "National and International Viewpoints on Orbital Laboratories and International Cooperation," IAA Orbiting International Laboratory and Space Sciences Conference, Cloudcraft, New Mexico, September 29, 1969.
- Fld. 215 Orange County Press Club, Santa Ana, October 3, 1969.

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- Fld. 216 National Academy of Sciences, Dartmouth, October 13-15, 1969.
- Fld. 217 "Space and the Humanitarian," Los Angeles Philanthropic Foundation, October 18, 1969.
- Fld. 218 "Space and Social Progress," Los Angeles Breakfast Club, October 29, 1969.
- Fld. 219 California Board of Trustees, Smoke Tree Ranch, Palm Springs, October 31, 1969.
- Fld. 220 "The Grand Tour," The Society of the Sigma Xi, Palm Springs, November 3, 1969.
- Fld. 221 British Interplanetary Society, London, November 11, 1969.
- Fld. 222 Royal Astronomical Society, London, November 14, 1969.
- Fld. 223 "Engineering and the Problems of Society," Bendix Field Engineering Corporation, Pasadena, November 20, 1969.
- Fld. 224 Auckland Institute and Museum, New Zealand, November 24, 1969.
- Fld. 225 "From Nebula to Man: Seeking the Ultimate Answers," c. 1970.
- Fld. 226 University of Tennessee Space Institute, Tullahoma, January 15, 1970.
- Fld. 227 Arnold Engineering Development Center, Arnold Air Force Station, Tennessee, January 16, 1970.
- Fld. 228 "The Grand Tour," General Electric Space Center, Valley Forge, Pennsylvania, January 29, 1970.
- Fld. 229 Indian Institute of Science, Bangalore, India, February 1970.
- Fld. 230 "Exploration of Our Neighboring Planets," National Security Industrial Association, New York Chapter, April 9, 1970.
- Fld. 231 "Exploration of the Solar System," Caltech Students' Day Speech, April 18, 1970.
- Fld. 232 Harvard, Yale, and Princeton Clubs of Southern California, Los Angeles Music Center, April 22, 1970.
- Fld. 233 Apollo 11 Spacecraft and Lunar Rock Mobile Exhibit Press Kit, 1970.
- Fld. 234 "The Next Decade in Space," Apollo 11 Tour, Carson City, Nevada, April 25, 1970.

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- Fld. 235 "Beyond the Horizon in Space Exploration," Rotary Club, San Diego, May 1, 1970.
- Fld. 236 Oregon Museum of Science and Industry, Portland, May 1-2, 1970.
- Fld. 237 "Values of the Space Program," World Affairs Council of Inland Southern California, Claremont College, May 6, 1970.
- Fld. 238 Electrochemical Society, Los Angeles, May 12, 1970.
- Fld. 239 Idaho Science Teachers Association, Boise, Idaho, May 16, 1970.
- Fld. 240 Sigma Xi, Abbott Laboratories, Chicago, May 18, 1970.
- Fld. 241 Caltech Management Club, von Kármán Auditorium, JPL, June 9, 1970.
- Fld. 242 Minolta Planetarium Dedication, DeAnza College, October 16, 1970.
- Fld. 243 Introduction of Thomas C. Rindfleisch, Caltech Lecture Series, November 16, 1970.
- Fld. 244 "The Future of Space Exploration," American Astronautical Society and International Association of Planetology, Pasadena, November 17, 1970.
- Fld. 245 "From Nebula to Man: Seeking the Ultimate Answers," Instituto Mexicano Norteamericano, Mexico City, November 25, 1970.
- Fld. 246 "Redeployment of Federal Laboratories," American Association for the

- Advancement of Science, Chicago, December 28, 1970.
- Fld. 247 "Stardust on the Bar: Space Fallout in Criminalistics," American Academy of Forensic Sciences, Las Vegas, February 22, 1973.
- Fld. 248 "Energy Conservation," Institute of Environmental Sciences, Disneyland Hotel, April 4, 1973.
- Fld. 249 New Zealand and Australia Trip, April 10-May 9, 1973.
- Fld. 250 Sir Douglas Robb Lectures, Auckland, NZ, September 1974.
- Fld. 251 "The Next One Hundred Years," Centennial Dinner, Pasadena Presbyterian Church, November 24, 1974.
- Fld. 252 Speech to JPL Supervisors, Beckman Auditorium, December 19, 1974.
- Fld. 253 New Century Club of Pasadena, January 14, 1975.

**Box 12 of 16 – Speeches or Articles Delivered by Others**

- Fld. 254 Chronological list of NASA Personnel making speeches, October 1964-June 1965.
- Fld. 255 Eberhardt Rechtin, "The Russian Satellite Program- A Resume of Unclassified Information in the U.S.," Institute of Radio Engineers, January 7, 1958.
- Fld. 256 Wernher von Braun, "Space Age Timetable," Western Space Age Conference and Exhibit, Los Angeles Chamber of Commerce, March 20, 1958.
- Fld. 257 Lee A. DuBridge, "The Challenge of the Space Age," Los Angeles Chamber of Commerce, March 20-22, 1958.
- Fld. 258 Lee A. DuBridge, "Space Research," U.S. House Select Committee on Astronautics and Space Exploration, April 25, 1958.
- Fld. 259 Press Release, Explorer 7/Juno II Launch, October 13, 1959.
- Fld. 260 Samuel P. Huntington, "Strategic Planning and the Political Process," *Foreign Affairs*, January 1960.
- Fld. 261 Albert R. Hibbs, "A New Look at the Moon," *Engineering and Science*, June 1960.
- Fld. 262 Robert A. Lovett, Marshall Memorial Dinner Address, August 10, 1960.
- Fld. 263 Solomon W. Golomb, "Extraterrestrial Linguistics," *Astronautics*, April 1961.
- Fld. 264 Daniel J. Kerrick, "Potentialities of Electron Bombardment Ion Engines for Electric Propulsion," Technical Report No. 32-301, June 1962.
- Fld. 265 Charles H. Percy, "The Challenge of a Revolutionary Age," Caltech Commencement Address, June 8, 1962.
- Fld. 266 *Mariner: Mission to Venus* (McGraw-Hill, 1963) [no author]
- Fld. 267 "Space Age Outlook," *Pasadena Independent and Star-News*, January 1, 1963.
- Fld. 268 "Venus: What Mariner Saw," *Time*, March 8, 1963. [Pickering on cover]
- Fld. 269 Frank Sartwell, "Mariner Scans a Lifeless Venus," *National Geographic*, May 1963.
- Fld. 270 Lee A. DuBridge, "California and the Space Age," California State Legislature, May 3, 1963.
- Fld. 271 U.S. Air Force Systems Command, "A Summary of Lessons Learned from Air Force Management Surveys," June 1, 1963.
- Fld. 272 Eberhardt Rechtin, "Why Race for Space?" *Engineering and Science*, November 1963.
- Fld. 273 Edgar M. Cortright, *Space Exploration- Why and How*, NASA EP-25, 1964.
- Fld. 274 Tommy D. Masek, "Plasma Characteristics of the Electron Bombardment

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- Fld. 275 John W. Stearns, "Electrical Propulsion Requirements for Planetary and Interplanetary Spacecraft," JPL Technical Report No. 32-403, March 1, 1964.
- Fld. 276 General Motors Corporation, "Surveyor Lunar Roving Vehicle Engineering Test Model Demonstration," March 23, 1964.
- Fld. 277 J. Denton Allen, "A Mars Photographic System," 9th SPIE Technical Symposium, August 26, 1964.
- Fld. 278 T. J. Gordon, Olaf Helmer, "Report on a Long-Range Forecasting Study," September 1964.
- Fld. 279 Robert J. Parks, H. M. Schurmeier, "Ranger to the Moon," *Engineering and Science*, October 1964.
- Fld. 280 Sloan, Mariner 4 speech, c. 1965.
- Fld. 281 "68 Hours to the Moon," JPL-Caltech, c. 1965.
- Fld. 282 Tommy D. Masek, "Plasma Investigation in a Reversed-Current Electron Bombardment Ion Engine," c. 1965.
- Fld. 283 Edgar M. Cortright, "Automated Spacecraft Come of Age," c. 1965.
- Fld. 284 George P. Miller, "A Case for Space," c. 1965.
- Fld. 285 Alan Harriman, Clayton C. LaBaw, "The Mariner IV Photographic Mission," 1965.
- Fld. 286 Al Hibbs, "The Proliferation of Rocket Technology," 1965.
- Fld. 287 Alvin R. Luedecke, "The Management of Unmanned Space Probes," AIAA Unmanned Spacecraft Meeting, March 2, 1965.

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- Fld. 288 Irvan F. Mendenhall, Los Angeles Section ASCE Meeting, April 20, 1965.
- Fld. 289 Eugene P. Konecni, "Manned Aerospace Flight in the Future," American Astronautical Society, Chicago, May 4, 1965.
- Fld. 290 Daniel J. Kerrisk, T. D. Masek, "Plasma Nonuniformity and Grid Erosion in an Electron Bombardment Ion Engine," *AIAA Journal*, June 1965; Technical Report 32-738, July 30, 1965.
- Fld. 291 Raymond L. Heacock, "Ranger: Its Mission and Its Results," *Space Log*, Summer 1965.
- Fld. 292 Bruce C. Murray, James A. Westphal, "Infrared Astronomy," *Scientific American*, August 1965.
- Fld. 293 Frederic C. Billingsley, "Mariner Mars 1964 Television," October 1965.
- Fld. 294 Donald E. Sowle, "Space Age Government Contracts," Seventh Annual Western Briefing Conference, October 13, 1965.
- Fld. 295 Inauguration Address of Dr. H. Guy Stever, Carnegie Institute of Technology, October 22, 1965.
- Fld. 296 Lee A. DuBridge, "The Role of the Institute of Technology," Stever Inauguration, Carnegie Institute of Technology, October 22, 1965.
- Fld. 297 Address of J. A. Stratton, President of MIT, Stever Inauguration, Carnegie Institute of Technology, October 22, 1965.
- Fld. 298 Steve Gunter, Hughes Management Club Talk, December 9, 1965.
- Fld. 299 Steven Z. Gunter, "Mariner Television Data Processing," Hughes Management Club, January 13, 1966.
- Fld. 300 Bruce C. Murray, Merton E. Davies, "A Comparison of U.S. and Soviet Efforts to Explore Mars," *Science*, February 25, 1966.
- Fld. 301 Daniel J. Kerrisk, Tommy D. Masek, "A Zero Gravity Mercury Propellant Feed System," AIAA Fifth Electric Propulsion Conference, March 1966.
- Fld. 302 Remarks by Vice President Hubert H. Humphrey, National Space Club,

- Goddard Memorial Dinner, March 16, 1966.
- Fld. 303 Eberhardt Rechtin, "Communications to the Moon and Planets," Radio Club of America, April 1966.
- Fld. 304 Merton E. Davies, Bruce C. Murray, "The Soviet Planetary Missions," May 1966.
- Fld. 305 J. W. Stearns, D. J. Kerrisk, "Solar-Powered Electric Propulsion Systems-Engineering and Applications," AIAA Second Propulsion Joint Specialist Conference, June 1966.
- Fld. 306 Vice Admiral H. G. Rickover, "Liberty, Science, and Law," Royal National Foundation, Athens, Greece, June 2, 1966.
- Fld. 307 Address by Robert C. Seamans, Jr., World Affairs Council, Los Angeles, July 14, 1966.
- Fld. 308 Edward C. Welsh, "Returns for the Space Dollar," Science Industry Committee, Metropolitan Washington Board of Trade, October 11, 1966.
- Fld. 309 J. D. Young, "CIT-JPL-NASA Relationships," November 10, 1966. [file is "JPL Discreet."]
- Fld. 310 Glenn T. Seaborg, "Science and the 'Man in the Street'" *Space Digest*, December 1966.
- Fld. 311 Simon Ramo, "Technology, Automation, and the Human Condition," *Space Digest*, December 1966.
- Fld. 312 N. R. Horowitz, R. P. Sharp, R. W. Davies, "Planetary Contamination I: The Problem and the Agreements," *Science*, March 24, 1967.
- Fld. 313 Bruce C. Murray, Merton E. Davies, Philip K. Eckman, "Planetary Contamination II: Soviet and U.S. Practices and Policies," *Science*, March 24, 1967.
- Fld. 314 Edward C. Welsh, "Benefiting from the Aerospace Revolution," Steinmetz Memorial Lecture, Schenectady, New York, May 17, 1967.
- Fld. 315 James E. Webb, "Goals for Urban America," Conference on Urban Government in the Decade Ahead, May 23, 1967.
- Fld. 316 Lee A. DuBridge, "University Basic Research," *Science*, August 11, 1967.
- Fld. 317 W. F. Libby, "The Moon Base," Structural Engineering Group, Douglas Aircraft Division and Reserve Officers of the U.S. Air Force, August 14, 1967.
- Fld. 318 Joseph E. Karth, "Propsects for Progress: Space in the 70's," American Institute of Aeronautics and Astronautics, August 28, 1967.
- Fld. 319 Surkov, Radiation Seminar, September 29, 1967. [magnetic tape]
- Fld. 320 Lee A. DuBridge, "Caltech Annual Report and Educational TV," Caltech Management Club Newsletter, November 1967.
- Fld. 321 Leonard D. Jaffe, Robert H. Steinbacher, "Surveyor V," November 3, 1967.
- Fld. 322 Harold P. Koenig, "Applying Military Principles to Business Management," c. 1968.
- Fld. 323 Mrozinski, R. V., "National Dividends of our Aerospace Effort," c. 1968.
- Fld. 324 Edward C. Welsh, "The Cornucopia of Space," St. Louis Section of American Institute of Aeronautics and Astronautics, 1968.
- Fld. 325 Eberhardt Rechtin, "Long-Range Planning for the Deep Space Network," Astronautics and Aeronautics, January 1968.
- Fld. 326 Albert R. Hibbs, "The Tortuous Path to the Planets," American Meteorological Society, January 31, 1968.
- Fld. 327 William Leavitt, "No Time for Business as Usual in Space," *Space Digest*, March 1968.
- Fld. 328 Robert Hutchins, "Stamp Out Engineering Schools," *Engineer*, March-April 1968.

- Fld. 329 Craig Hosmer, "The Science Establishment: Where Is It Headed?"  
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- Fld. 330 Harold C. Urey, "The Origin of Some Meteorites from the Moon," *Die Naturwissenschaften*, April 1968. [English-language article in German journal.]

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- Fld. 331 Philip Abelman, "The Changing Role of Science in Our Society,"  
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- Fld. 332 Homer E. Newell, "Current Program and Considerations of the Future for  
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- Fld. 333 Donald F. Hornig, "The Impact of Science," Dedication of Thompson Hall  
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- Fld. 334 George P. Miller, "A Parliamentarian's View of Science and Technology,"  
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- Fld. 335 Edward Wenk, Jr., "Man and the Decade of Ocean Exploration," Undersea  
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- Fld. 336 Glenn E. Matthews, "Photography of the Moon and the Planet Mars," June  
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- Fld. 337 Emilio Q. Daddario, "Can We Dispense with Research?" *Congressional  
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- Fld. 338 Margeret Chase Smith, "In Support of the Space Program," *Congressional  
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- Fld. 339 "Like Investing in Land out in the Country," *Forbes*, July 1, 1968.
- Fld. 340 Charles W. Craven, Joseph A. Stern, George F. Ervin, "Planetary  
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- Fld. 343 Bruce C. Murray, "A New Strategy for Planetary Exploration,"  
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- Fld. 344 Robert F. Allnutt, Speech to Capitol Hill Chapter of the Federal Bar  
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- Fld. 345 J. D. Anderson and others, "The Radius of Venus as Determined by  
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- Fld. 346 Homer J. Stewart, "Lunar Exploration- The First Decade Raises More  
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- Fld. 347 James E. Corel, "What the Rangers Revealed About Lunar Geology,"  
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- Fld. 348 Albert R. Hibbs, "Surveyor Results," *Astronautics and Aeronautics*,  
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- Fld. 349 Thomas C. Rindfleisch, "Getting More Out of Ranger Pictures by  
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- Fld. 350 Charles F. Capen, "Mars- A Dynamic World," March 7, 1969.
- Fld. 351 Thomas O. Paine, Thomas A. Edison Memorial Lecture, Naval Research  
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- Fld. 352 R. Cargill Hall, "Rescue and Return of Astronauts on Earth and in Outer  
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- Fld. 353 W. J. Schmandle, W. A. Crisci, "Scientific and Technological Fallout of  
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- Fld. 354 Thomas O. Paine, "Space and National Security in the Modern World," *Air Force/Space Digest*, May 1969.
- Fld. 355 Thomas O. Paine, "Space-Age Management and City Administration," National Conference on Public Administration, May 20, 1969.
- Fld. 356 James E. Long, "To the Outer Planets," *Astronautics and Aeronautics*, June 1969.
- Fld. 357 Charles E. Kohlhasse, Henry W. Norris, John A. Stallkamp, Harris M. Schurmeier, "The 1969 Mariner Mission to Mars," *Astronautics and Aeronautics*, July 1969.
- Fld. 358 Thomas O. Paine, Commonwealth Club, San Francisco, August 1, 1969.
- Fld. 359 Thomas O. Paine, National Press Club, August 6, 1969.
- Fld. 360 Eberhardt Rechtin, "The Role of the Advanced Research Projects Agency," Management Club of JPL, October 22, 1969.
- Fld. 361 L. D. Jaffe, R. H. Steinbacher, "Surveyor 7 Lunar Mission," *Journal of Geophysical Research*, December 15, 1969.
- Fld. 362 Adelbert O. Tischler, Statement to U.S. House Committee on Science and Astronautics, c. 1970.
- Fld. 363 Thomas O. Paine, Statement to U.S. Senate Committee on Aeronautical and Space Sciences, c. 1970.
- Fld. 364 Thomas O. Paine, Budget Press Conference, January 31, 1970.
- Fld. 365 Louis H. Mayo, "Social Impact Assessment of Technological Applications," March 1970.
- Fld. 366 Herman H. Kurzweig, Statement to U.S. House Committee on Science and Astronautics, March 1970.
- Fld. 367 D. H. LeCroisette, "The Impact of Space Exploration on Medical Engineering," *British Journal of Hospital Medicine*, April 1970.
- Fld. 368 Arthur C. Clarke, "Life in the Year 2001," *Engineering and Science*, May 1970.
- Fld. 369 Simon Ramo, "Likely Technological Developments of the Future Which May Significantly Affect Our Society," with comment by Daniel Lerner, American Academy of Political and Social Science, Philadelphia, May 7, 1970.

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- Fld. 370 William Haggerty, "Educating Technologists in Desirable Social Policy and Educating Social Scientists in Technological Capabilities," with comment by James E. Webb, American Academy of Political and Social Science, Philadelphia, May 7, 1970.
- Fld. 371 John J. Corson, "Machinery Needed to Harmonize Technological Development and Social Policy," with comment by Harvey Brooks, American Academy of Political and Social Science, Philadelphia, May 7, 1970.
- Fld. 372 James C. Charlesworth, "The Development of Social Policy in Technological America," American Academy of Political and Social Science, Philadelphia, May 7, 1970.
- Fld. 373 Frederick Seitz, "How to Achieve a Balance between Technological Progress and Control of its Undesirable Side Effects," American Academy of Political and Social Science, Philadelphia, May 7, 1970.
- Fld. 374 Raymond L. Bisplinghoff, "Recent Technological Developments Which Have Had an Impact, Good or Bad, on Our Society," comment by Joseph C. Palamountain, Jr., American Academy of Political and Social Science, Philadelphia, May 7, 1970.
- Fld. 375 Statements of James A. Van Allen, Thomas Gold, Walter F. Mondale, regarding Space Shuttle, *Congressional Record*, October 1970.
- Fld. 376 George M. Low, "Our Future in Space: A Challenge in Leadership," Inland Daily Press Association, Chicago, October 19, 1970.



- Fld. 377 George M. Low, "The Impact of Man and His Environment on the Space Program," American Institute of Aeronautics and Astronautics, October 22, 1970.
- Fld. 378 George Bugliarello, "A Covenant for the New Society," 13th Annual Nuclear Engineering Education Conference, February 1, 1971.
- Fld. 379 Frank J. Malina, "America's First Long Range Missile and Space Exploration Program: The ORDCIT Project of the Jet Propulsion Laboratory, 1943-1946," September 23, 1971.
- Fld. 380 W. M. Magruder, "Technology, National Goals, Aerospace and Our Society," American Society of Mechanical Engineers, September 12, 1972.
- Fld. 381 E. N. Cole, "Industry and Academia: The Other Side of the Coin," January 14, 1973.
- Fld. 382 James C. Fletcher, "Spaceship Earth: A Look Ahead to a Better Life," statement before U.S. Senate Committee on Aeronautical and Space Sciences, March 6, 1973.
- Fld. 383 James C. Fletcher, "Space and Man's Environment," National Wildlife Federation Special Session, March 17, 1973.
- Fld. 384 H. N. Norton, "Electro-Optical Measuring Instruments for Orbital Observations of the Planet Mars," *Industrial Review of Measurement Technology*, July 1973.
- Fld. 385 Frank E. Moss, "The Future of Space: The View from Capitol Hill," American Institute of Aeronautics and Astronautics, July 1, 1973.
- Fld. 386 John V. Tunney, "The Fuel Shortage- Real or Contrived?" Los Angeles World Affairs Council, January 23, 1974.
- Fld. 387 P. M. Muller, E. R. Stephenson, "The Accelerations of the Earth and Moon from Early Astronomical Observations," May 1974.
- Fld. 388 Harold Brown, "Touring the Planets With a Camera," Committee for Economic Development, May 7, 1974.
- Fld. 389 James C. Fletcher, "Aeronautics in the American Society," NASA-University Conference on Aeronautics, October 23, 1974.
- Fld. 390 James C. Fletcher, "Management of Aero/Space Technology for National Needs," AIAA Annual Meeting, Washington, D.C., February 26, 1975.

**Box 16 of 16** – JPL Discreet material  
JPL Discreet material; 3 folders.

## CATALOG DESCRIPTION

William H. Pickering Speech Collection, 1955-1975

4.65 cubic ft. (393 folders)

The collection consists of rough drafts and transcripts of speeches delivered by Jet Propulsion Laboratory Director William H. Pickering, along with related correspondence, and speeches and articles written by others that were of interest to Pickering. The collection was divided into two series: speeches and articles by Pickering and speeches and articles by others that Pickering collected. The collection is arranged in its original order: chronologically by date of speech or published article. The items include correspondence, memoranda, photographs, journal articles, transcripts of press conferences, rough drafts of speeches and transcripts of speeches. There are three folders of material labeled "JPL Discreet."

### Tracings

Jet Propulsion Laboratory – History.  
Jet Propulsion Laboratory – Office of the Director  
Explorer 1  
Vanguard  
Mariner R

Union of Soviet Socialist Republics – Space Exploration

Project Ranger

Project Mariner

Mariner 4

Apollo 11 Mission

Explorer 7

Ranger 7

Solar Electric Propulsion

Ion Power

Surveyor 5

Pickering, William H., 1910-

Melikan, Victoria L., 1928-

Goddard, Frank E., Jr., 1915-

Medaris, John B., 1902-1990.

Silverstein, Abe, 1908-

Kellogg, William

von Kármán, Theodore, 1881-1963.

von Braun, Wernher, 1912-1977.

James, Jack N., 1920-

Rindfleisch, Thomas C.

Rechtin, Eberhardt, 1926-

DuBridge, Lee A., 1901-1993.

Huntington, Samuel P.

Hibbs, Albert R., 1924-

Lovett, Robert A.

Golomb, Solomon W.

Percy, Charles H., 1919-

Sartwell, Frank

Cortright, Edgar M., 1923-

Masek, Thomas D.

Stearns, John W.

Allen, J. Denton

Parks, Robert J., 1922-

Schurmeier, Harris M., 1924-

Miller, George P., 1891-1982.

Harriman, Alan

LaBaw, Clayton C.

Luedecke, Alvin R., 1910-1998.

Mendenhall, Irvan F.

Kerrisk, Daniel J.

Heacock, Raymond L., 1928-

Murray, Bruce C., 1931-

Westphal, James A.

Billingsley, Frederic C.

Sowle, Donald E.

Stever, H. Guy, 1916-

Stratton, Julius A., 1901-

Gunter, Steven Z.

Davies, Merton E., 1917-

Humphrey, Hubert H., 1911-1978.

Rickover, Hyman G., 1900-1986.

Seamans, Robert C., Jr., 1918-  
Welsh, Edward C., 1909-  
Young, John D., 1919-  
Seaborg, Glenn T., 1912-  
Ramo, Simon, 1913-  
Horowitz, Norman R, 1915-  
Sharp, R. P.  
Davies, R. W.  
Webb, James E., 1906-1992.  
Libby, W. F.  
Karth, Joseph E., 1922-  
Jaffe, Leonard D.  
Steinbacher, Robert H.  
Koenig, Harold P.  
Mrozinski, R. V.  
Leavitt, William  
Hutchins, Robert M.  
Urey, Harold C., 1893-1981.  
Abelman, Philip  
Newell, Homer E., 1915-1983.  
Hornig, Donald E., 1920-  
Wenk, Edward, Jr.  
Matthews, Glenn E.  
Daddario, Emilio Q., 1918-  
Smith, Margaret Chase, 1897-1995.  
Craven, Charles W., 1920-  
Stern, Joseph A.  
Ervin, George F.  
Muller, P. M.  
Stogren, W. L.  
Gardner, John W., 1912-  
Allnutt, Robert F., 1935-  
Anderson, J. D.  
Stewart, Homer J., 1915-  
Corel, James E.  
Capen, Charles F.  
Paine, Thomas O., 1921-1992.  
Hall, R. Cargill, 1937-  
Kohlhase, Charles E., 1935-  
Norris, Henry W., 1922-  
Stallkamp, John A.  
Tischler, Adelbert O.  
Mayo, Louis H.  
Kurzweg, Herman H., 1908-  
LaCroisette, D. H.  
Clarke, Arthur C., 1917-  
Lerner, Daniel  
Haggerty, William  
Corson, John J., 1905-1990.  
Brooks, Harvey  
Charlesworth, John C.

Seitz, Frederick, 1911-  
Blispinghoff, Raymond L.  
Palamountain, Joseph C., Jr.  
Van Allen, James A., 1914-  
Gold, Thomas, 1920-  
Mondale, Walter F., 1928-  
Low, George M., 1926-1984.  
Bugliarello, George  
Malina, Frank J., 1912-1981.  
Magruder, W. M.  
Cole, E. N.  
Fletcher, James C., 1919-1991.  
Norton, H. N.  
Moss, Frank E., 1911-  
Tunney, John V., 1934-  
Stephenson, E. R.  
Brown, Harold, 1927-

Part of Accession 1990-41.